

FALLOW DEER DISTRIBUTION AND HABITAT IN THE MEDITERRANEAN LANDSCAPE OF THE ISLAND OF RHODES AS DETERMINED BY A TRACK SURVEY: PRELIMINARY DATA

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1. INTRODUCTION

Little is known about fallow deer distribution and habitat on the island of Rhodes. The only available data derive from a short study conducted by Bousbouras and Ioannidis (1991), who claimed that fallow deer population was restricted to the forested areas of southern part of Rhodes and the population did not exceed 40 individuals.

The objectives of the present study are the following: a) to define the distribution of fallow deer in the south-central part of Rhodes on a presence/absence basis and (b) to describe fallow deer habitat on a broad-scale.

2. STUDY AREA

The study area (Fig. 1) was defined by information provided by local people. At least 5 persons (hunters, shepherds and farmers) were interviewed from each village of south-central Rhodes.



Fig. 1. Study area

3. METHODS

3.1. TRACK SURVEY

The study was undertaken during the winter and spring 2002-2003. The study area was divided in quadrats of 1 km² and the presence/absence track survey was conducted within 260 quadrats after rainfall. Within each quadrat transects of up to 1 km along forest roads were established.

3.2. HABITAT DESCRIPTION

In order to describe fallow deer habitat quantitatively on a broad-scale, landscape of study area was classified into three habitat types, forestland (mainly *Pinus brutia*), rangeland (characterized by species of phrygana and macchie) and agricultural land (mainly olive trees and wheat) and point frame (Chalmers and Parker, 1989) was undertaken on aerial photographs of 1: 5000 scale. Sample stations were distributed evenly within each quadrat and the type of habitat of each station was recorded.

4. RESULTS

4.1. TRACK SURVEY

Quadrats (179) of certain deer presence were combined to produce the map in Figure 2. The areas showing deer presence, however, include within them quadrats of no or probable deer presence that are surrounded by quadrats of certain deer presence. Sites of probable deer presence are also included in the map. The size of total area and of each core area is shown in Table 1.

Table 1. Size of the core areas

Core Area 1	Core Area 2	Core Area 3	Total area
204 km ²	35 km ²	11 km ²	250km ²

4.2. HABITAT DESCRIPTION

All three types of habitats are present within each of the core areas; however, the frequency of their occurrence differs between them (Fig. 3). Quite interestingly two distinct habitat patterns characterize core area 1.

5. CONCLUSIONS

- Fallow deer distribution seems to present three core areas of different size and habitat structure.

- Given the distances existing between the core areas and the probability of deer presence, deer movements between core area 2 and 3 is most likely, while deer movements between core area 3 and 1 can not be excluded either. Conversely, evidence does not seem to support deer communication between core area 1 and 2.

- Given the size of the total area and that the home range of fallow deer, according to Chapman and Chapman (1997) and Nugent (1994), does not exceed 2 km² then it could be proposed that the fallow deer population in the study area is at least 125 individuals.

- Just as the landscape of the island of Rhodes is heterogeneous, fallow deer habitat seems to be also heterogeneous, confirming the adaptability of the species. Its distribution is characterized by two distinct habitat patterns: in one of them forestland is predominant, while in the other rangeland

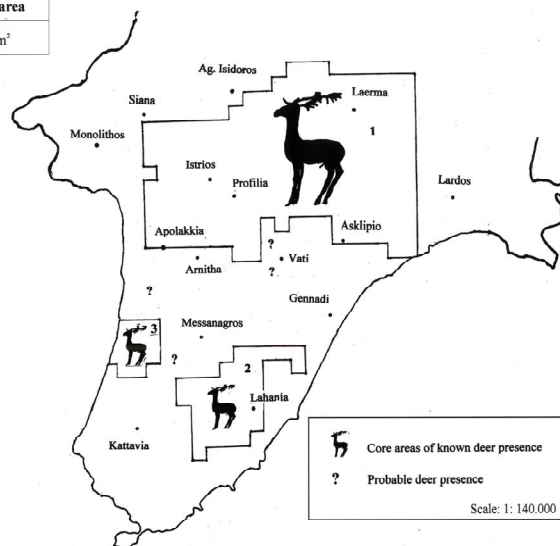


Fig. 2. Fallow deer distribution in south-central Rhodes

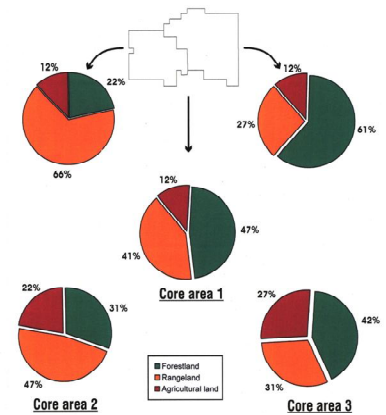


Fig. 3. Frequency of occurrence of different types of habitats within the core areas

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Ongoing Study

Ongoing study involves confirmation of present conclusions, expansion of area of study, description of fallow deer habitat on fine scale, and genetic analysis, among other things

Acknowledgements

We would like to thank the Municipality of Lindos and the people of Rhodes for their hospitality and good will, without which the study would not be possible. We also thank Mrs. Apostolidou, Dr. Catsadorakis and Dr. Morton for their contribution to the present study.